

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

PART VI –C (ARCHIVES)

WATERBODY MANAGEMENT PLAN SERIES

MILL CREEK RESERVOIR

**AQUATIC VEGETATION TYPE MAPS
AND NARRATIVES 2018**

APPENDIX III – Aquatic Vegetation Type Maps

Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – July 1980

Mill Creek Reservoir
July 1980

The water level in Mill Creek was normal at the time of inspection.

The water was clear and no plankton bloom was noticed. More of the dead timber has fallen and stumps are everywhere. Navigation out of the cut channels and boat roads is very difficult.

The submersed aquatic plants listed in order of importance are fanwort (*Cabomba caroliniana*), bladderwort (*Utricularia* sp.), and southern watergrass (*Luziola fluitans*). The infestation of fanwort was increased to the point of being severe in about one-fifth of the lake, this being in the upper end. There is also a larger infestation of fanwort close to the dam. Infestations of bladderwort are about the same.

The marginal plants are about the same as they were last year with water shield (*Brasenia schreberi*) being the major plant. Infestations are no larger than last year.

Above text written by Melvin Bagwell; edited and corrected by James Seales, January 2014.

1980 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1981

Mill Creek Reservoir 1981

At the time of assessment Mill Creek Reservoir was at pool stage. The water color was very clear. There was no plankton bloom noted any place in the lake.

The aquatic plants noted were fanwort (*Cabomba caroliniana*), bladderwort (*Utricularia* sp.), spikerush (*Eleocharis* sp.) and water shield (*Brasenia schreberi*).

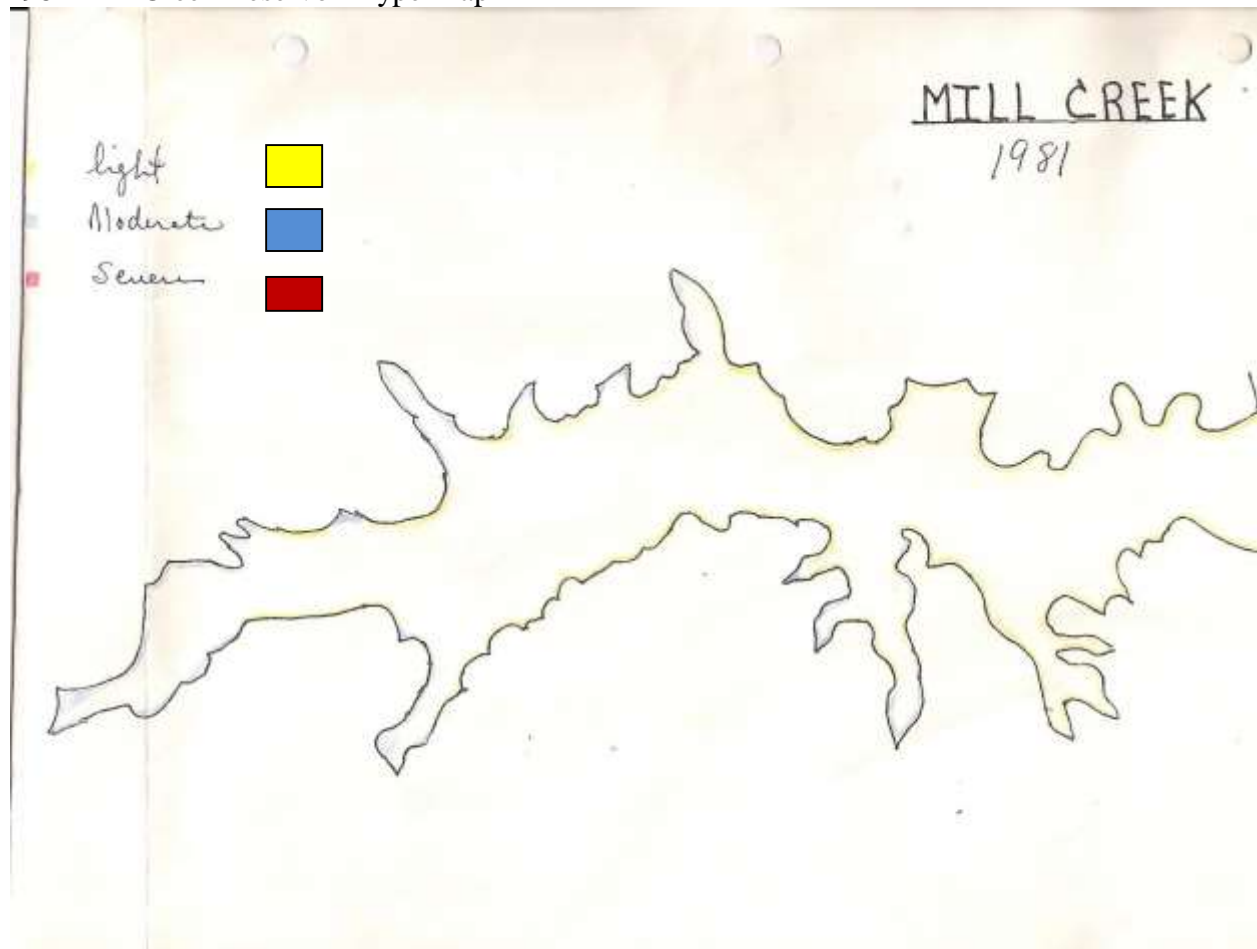
The upper end of the lake had a light infestation of fanwort and bladderwort. The remainder of the lake had light to minor infestations of bladderwort and spikerush.

Mill Creek reservoir had a drawdown in late fall and early winter in 1980 and 1981. It was drawn down around November 25, 1980 and was filled about January 1, 1981.

The reason for the drawdown was for some pier maintenance, clean up, and for some parish work.

Above text written by Melvin Bagwell; edited and corrected by James Seales, January 2014.

1981 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1982

Mill Creek Reservoir
1982

At the time of assessment Mill Creek Reservoir was at pool stage. The color of the water was clear. There was very little plankton bloom noted.

The marginal plants noted were buttonbush (*Cephalanthus occidentalis*), three square grass (*Scirpus americanus*), cattail (*Typha* sp.), sedge (*Cyperus* sp.), southern watergrass (*Luziola fluitans*), and *Panicum* sp.

The emergent plants noted were water shield (*Brasenia schreberi*).

The submersed plants noted were fanwort (*Cabomba caroliniana*), bladderwort (*Utricularia* sp.), coontail (*Ceratophyllum demersum*), and filamentous algae. There was a small severe infestation of submersed vegetation in the upper end of the lake. There was just a small amount of *Ceratophyllum* noted.

The moderate infestations were primarily bladderwort and filamentous algae. Two areas of moderate infestations contained fanwort, one in the mid-portion of the lake and the other at the dam.

Above text presumably written by Melvin Bagwell; edited and corrected by James Seales, May 2014.

1982 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1983

Mill Creek Reservoir 1983

At the time of assessment Mill Creek was at pool stage. The color of the water was very clear. There was not a noticeable plankton bloom noted anywhere in the reservoir.

There were no severe infestations of aquatic plants in Mill Creek Reservoir.

Most of the moderate infestations were primarily comprised of bladderwort (*Utricularia* sp.) and pondweed (*Potamogeton* sp.) mixed with filamentous algae. The moderate infestation in the area of the dam and the south side of the lake consisted mainly of fanwort (*Cabomba caroliniana*), and filamentous algae.

The light infestations were comprised of pondweed, bladderwort, fanwort, and spikerush (*Eleocharis* sp.).

The primary emergent plant noted was water shield (*Brasenia schreberi*), which was located in in the mid portion of the lake.

The marginal plants noted were smartweed (*Polygonum* sp.), cattail (*Typha* sp.), buttonbush (*Cephalanthus occidentalis*), arrowhead (*Sagittaria* sp.), bulrush (*Scirpus* sp.) and miscellaneous grasses.

In summary Mill Creek in in good condition. There has been no significant increase in submersed plants since last year. There has been a decrease in fanwort in the upper end. The drawdown in 1980 almost eliminated watershield, but there are some plants in the lake. Marginal plants are in tolerable numbers.

Above text presumably written by Melvin Bagwell; edited and corrected by James Seales, May 2014.

1983 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1984

Mill Creek Reservoir 1984

At the time of assessment Mill Creek was at pool stage. The color of the water was clear. There was little plankton bloom noted in any area. Some areas of the upper end are not accessible to boaters and fishermen because of the logs and stumps. Some of the stumps are decomposed to the point of coming apart, but many are solid.

The severe infestations noted on the type map consist of fanwort (*Cabomba caroliniana*), bladderwort (*Utricularia* sp.), pondweed (*Potamogeton* sp.), and coontail (*Ceratophyllum demersum*). In most areas these plants were mixed, but in the area of the dam there are some spots of pure fanwort.

The moderate infestations consist of fanwort (*Cabomba caroliniana*) and bladderwort (*Utricularia* sp.). In all instances the plants were mixed.

The light infestations consisted of fanwort in all cases.

The emergent plants noted were water shield (*Brasenia schreberi*), cattail (*Typha* sp.), and water primrose (*Ludwigia octovalvis*). Some infestation of watershield were severe and in fringes of fifteen to twenty feet wide.

There were no floating plants noted at all.

In summary Mill Creek Reservoir has an aquatic plant problem. There has been some increase in plants since last year. Mill Creek is a fairly deep lake with very little shallow water, but what shallow water it has is infested in some way with aquatic plants.

Prepared by: Melvin Bagwell

Edited and corrected by: James Seales (May 2014)

Mill Creek Reservoir – Letter to Bienville Parish Police Jury Concerning Aquatic Vegetation

Bienville Parish Police Jury P.O.
Box 479
Arcadia, La. 71001

Per your request, Kepler Lake and Mill Creek Reservoir were surveyed for aquatic plant problems during August, 1984. The survey revealed both had some areas of severe infestations of aquatic weeds.

Kepler Lake was found to be in fair condition with most of the lake usable and accessible to fishermen and boaters. A decrease was noted in area of infestation as compared to a similar survey conducted in 1983.

We see no need for lake management this year to control aquatic plants in Kepler Lake.

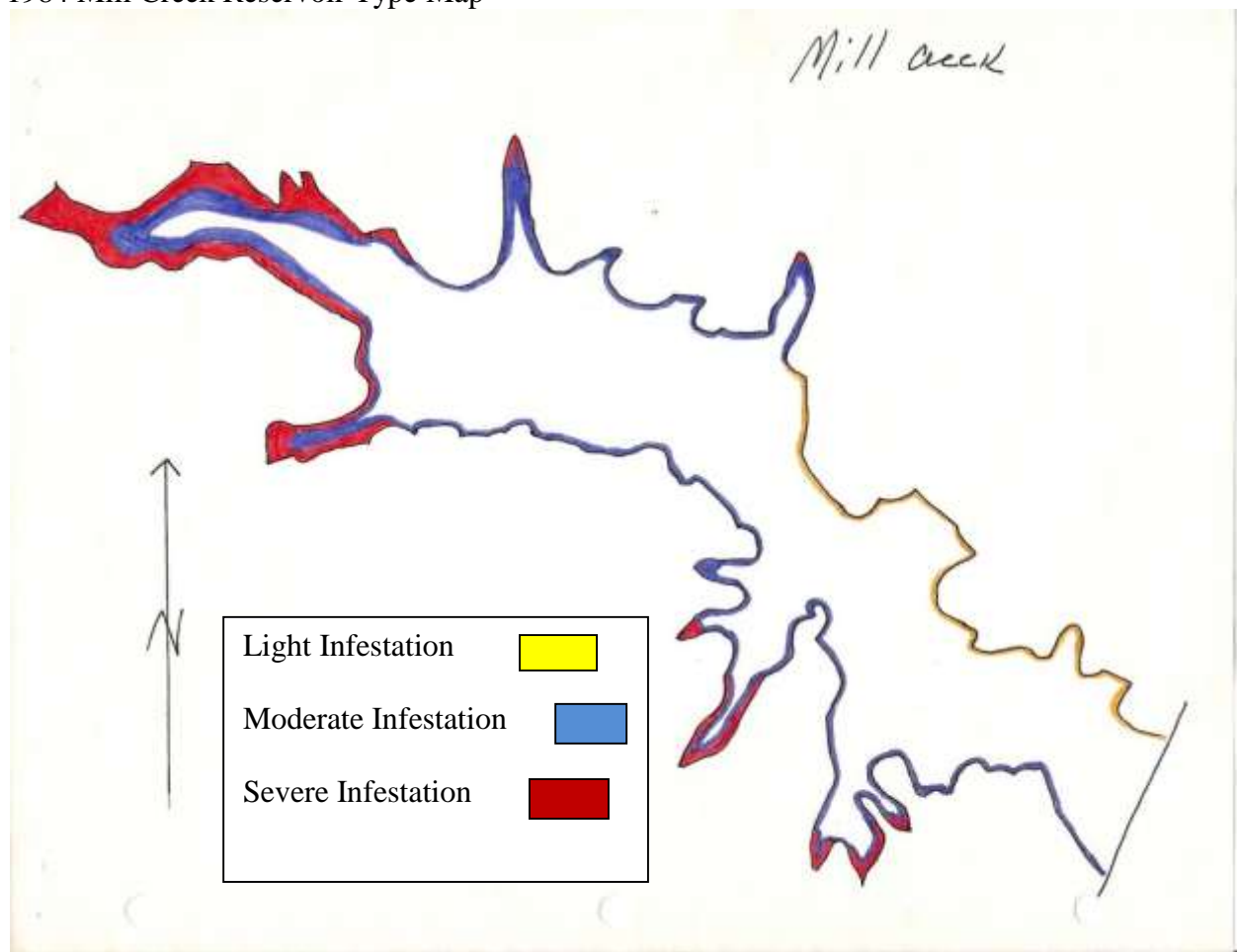
Mill Creek Reservoir was found to have weed problem in most of the shallow water areas. There was an increase noted in area of infestation as compared to a similar survey conducted on 1983. We see no need for a lake management plan to control aquatic plants in Mill Creek this year. However if the area of infestation continues to increase as expected, a drawdown of the lake will be required next year to control the encroachment of the problem plants.

Please find enclosed the condition assessment of both lakes for 1984.

Louie V. Richardson
Aquatic Plant Research Biologist

cc: James Manning

1984 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1988

Mill Creek Reservoir 1988

At the time of assessment Mill Creek Reservoir was at pool stage. The water color was extremely clear. Visibility of the water was approximately thirty inches (30”) deep.

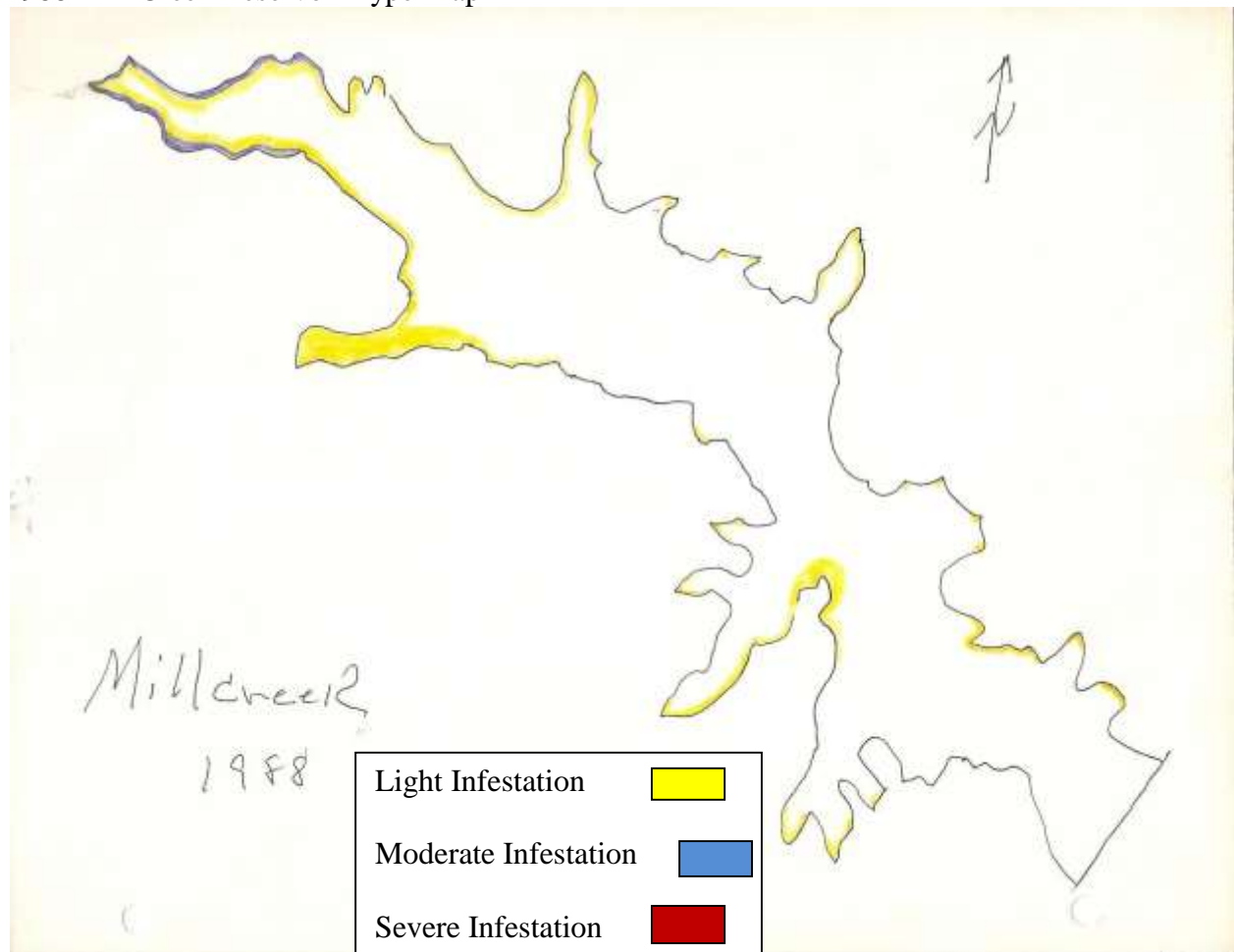
The submersed aquatic plants noted were filamentous algae, spikerush (*Eleocharis* sp.), southern naiad (*Najas guadalupensis*), bladderwort (*Utricularia* sp.), fanwort (*Cabomba caroliniana*), and southern watergrass (*Luziola fluitans*).

The emergent and marginal plants noted were water shield (*Brasenia schreberi*), smartweed (*Polygonum* sp.), buttonbush (*Cephalanthus occidentalis*), bulrush (*Scirpus* sp.), and several species of grasses and sedges.

In summary Mill Creek Reservoir is in good condition. There has been no significant increase in aquatic plants at this time.

Above text presumably written by Melvin Bagwell; edited and corrected by James Seales, May 2014.

1988 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1989

Mill Creek Reservoir 1989

Mill Creek Reservoir, Bienville Parish, was assessed in September 1989. The water color was clear and the level of the lake was at pool stage. The Secchi disc reading was forty two inches (42”).

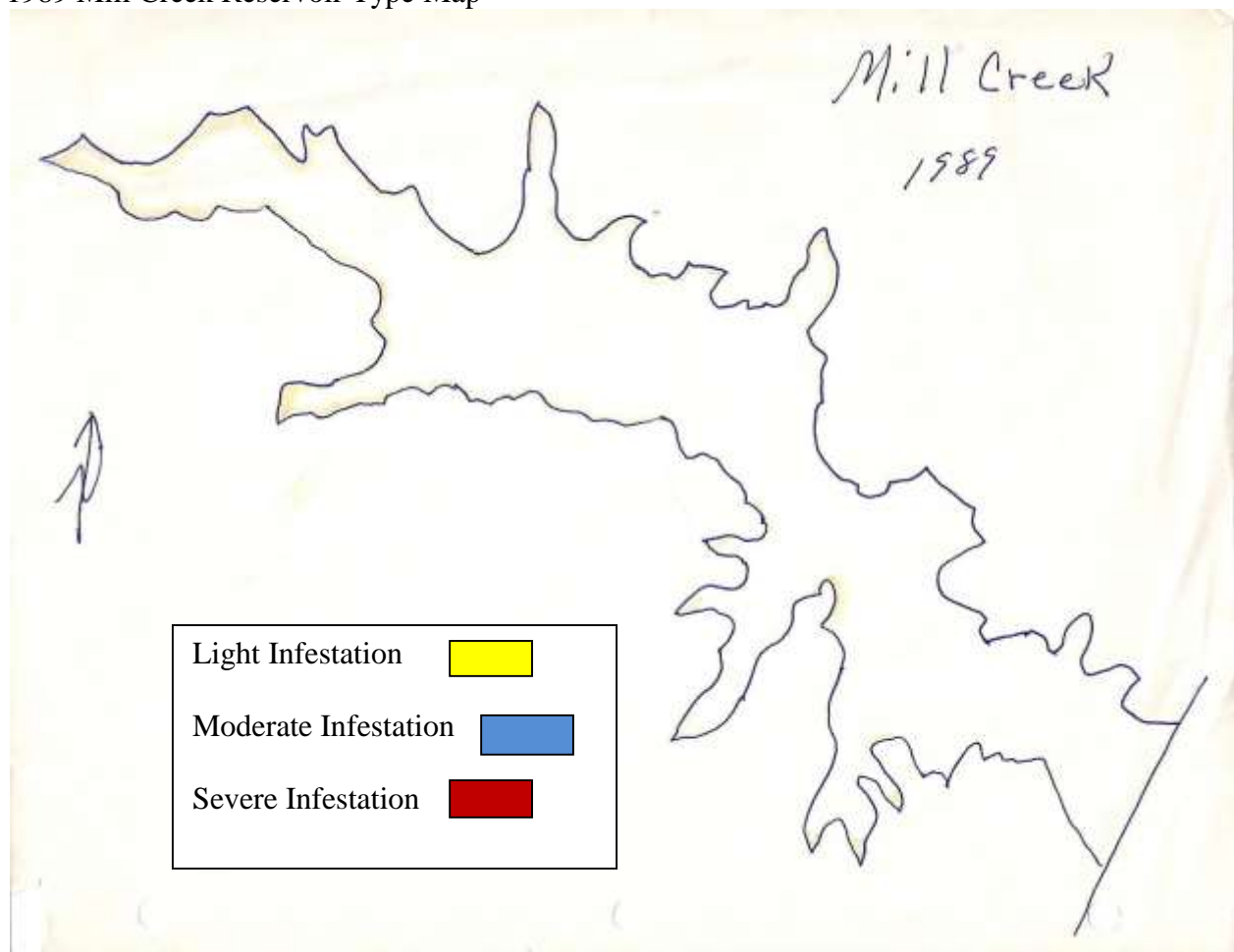
The dominant plant in the lower half of Mill Creek Reservoir was southern naiad (*Najas guadalupensis*). Most areas of the lower half were devoid of plants. Plants that were also noted was bladderwort (*Utricularia* sp.) and southern watergrass (*Luziola fluitans*).

The dominant plant in the upper end of Mill Creek Reservoir was southern naiad. Also noted was bladderwort and fanwort (*Cabomba caroliniana*). Most infestations were light except for the extreme end of the lake which was moderate.

Mill Creek Reservoir was subject to some early summer flooding, but never got to an extremely high level because of the small watershed.

Above text presumably written by Melvin Bagwell; edited and corrected by James Seales, May 2014.

1989 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1990

Mill Creek Reservoir 1990

Mill Creek Reservoir was assessed for aquatic plants in August, 1990. Mill Creek was at pool stage at the time of assessment. The water was very clear. The secchi disc reading was thirty eight inches (38”). There was not a good plankton bloom in the lake at this time.

The dominant plant in the upper half of Mill Creek Reservoir was bladderwort (*Utricularia* sp.). The secondary plant was southern naiad (*Najas guadalupensis*). Also noted was filamentous algae and muskgrass (*Chara* sp.).

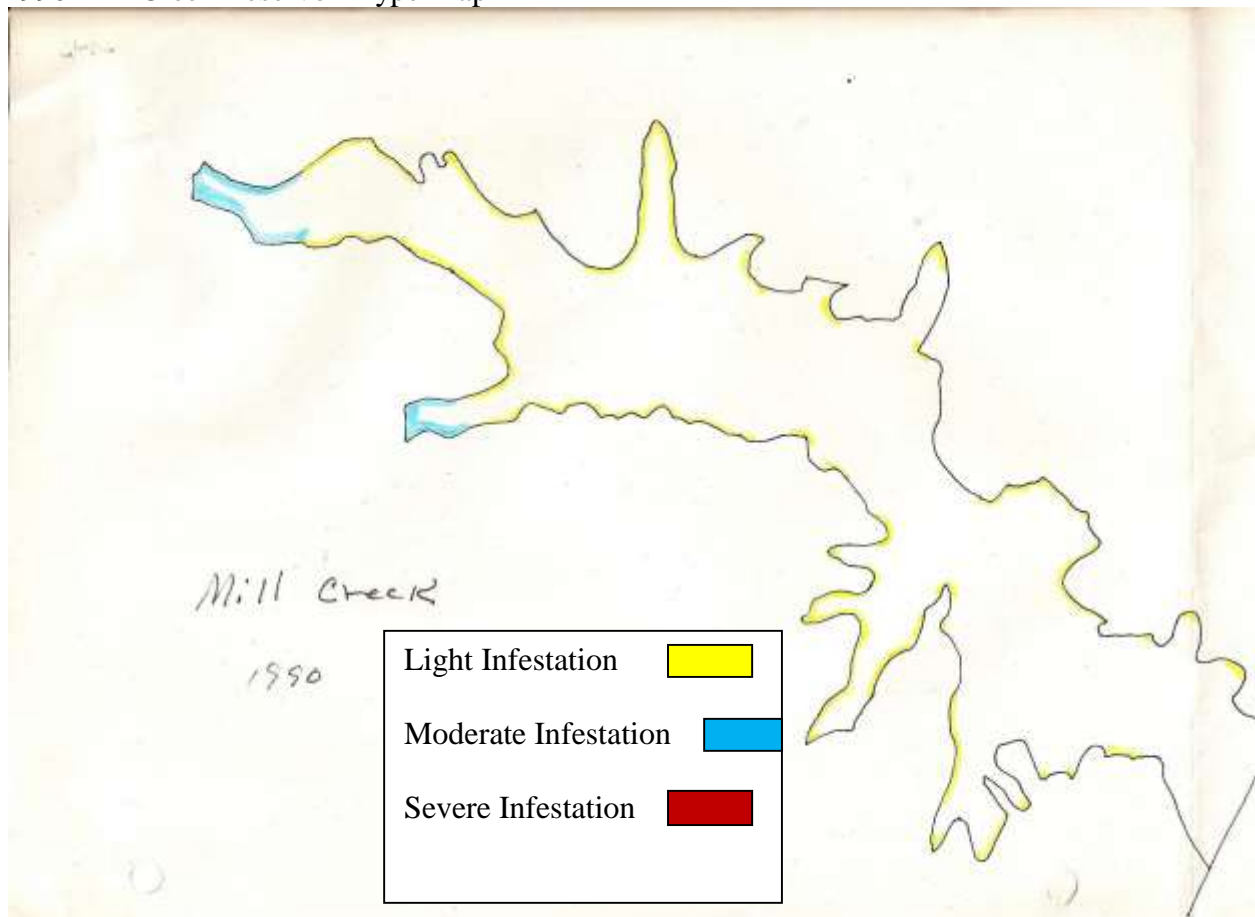
The dominant plant in the lower half of Mill Creek was southern naiad. Some small patches of southern watergrass (*Luziola fluitans*) were noted and filamentous algae was present in small amounts.

Emergent plants noted was water shield (*Brasenia schreberi*), smartweed (*Polygonum* sp.), cattail (*Typha* sp.), and miscellaneous rushes and grasses.

Mill Creek was subjected to a flush of water in June 1990 caused by flash flooding. Because of its water shed and dam elevation Mill Creek ran down fast but was subject to flushing action from this rain event.

Above text presumably written by Melvin Bagwell; transcribed, edited and corrected by James Seales, May 2014.

1990 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1991

Mill Creek Reservoir 1991

At the time of assessment Mill creek Reservoir was at pool stage. The water color was fairly turbid with a poor plankton bloom. The Secchi disc reading was 36 inches.

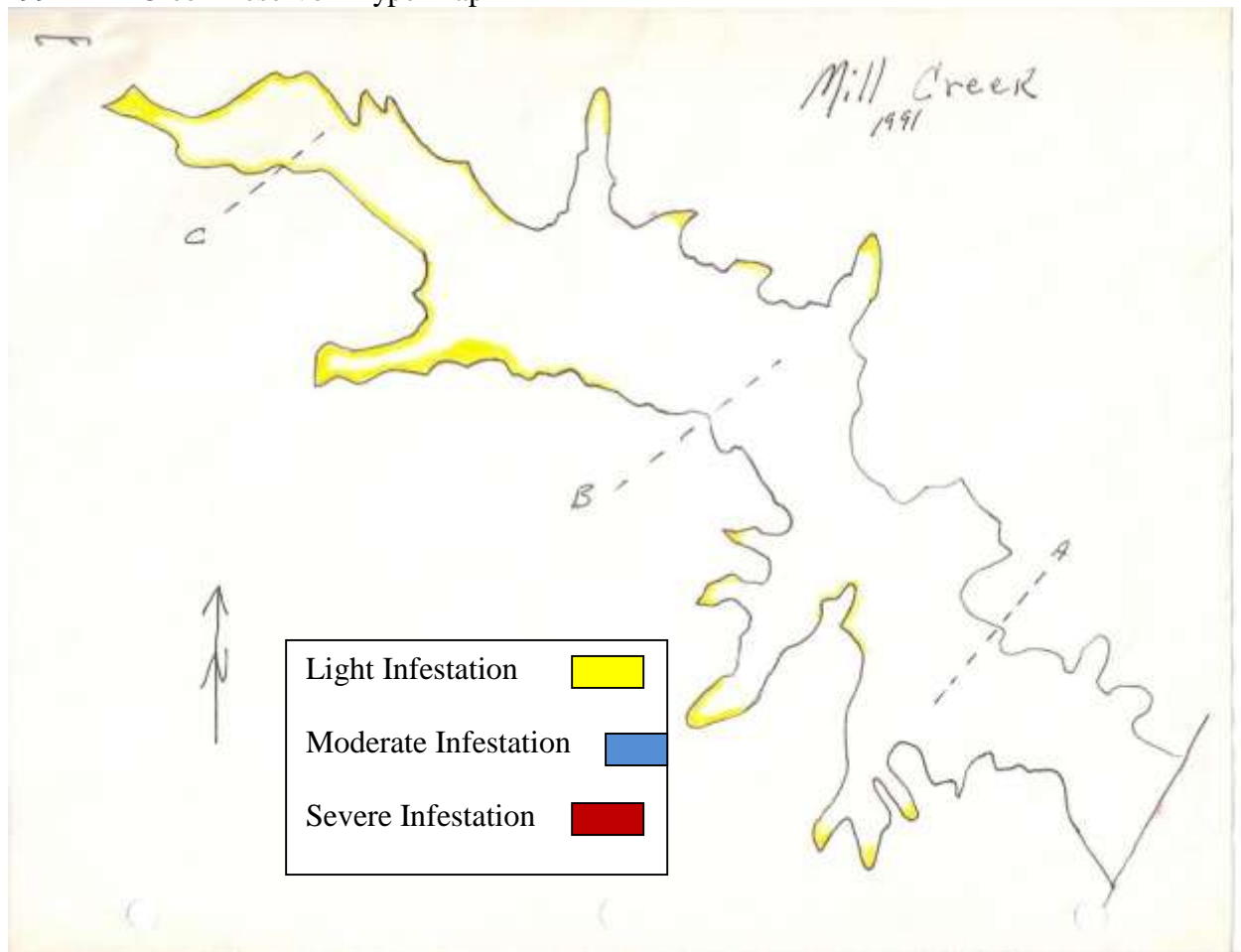
The submersed aquatic plants noted were bladderwort (*Utricularia* sp.), and southern naiad (*Najas guadalupensis*)

The emergent aquatic plants noted were watershield (*Brasenia schreberi*), cattail (*Typha* sp.), and smartweed (*Polygonum* sp.).

In summary Mill Creek Reservoir has an area of moderate infestation in the upper end. All other areas are lightly infested or no plants at all. Some shallow water areas are moderately infested with watershield.

Above text presumably written by Melvin Bagwell; edited and corrected by James Seales, May 2014.

1991 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1992

Mill Creek Reservoir 1992

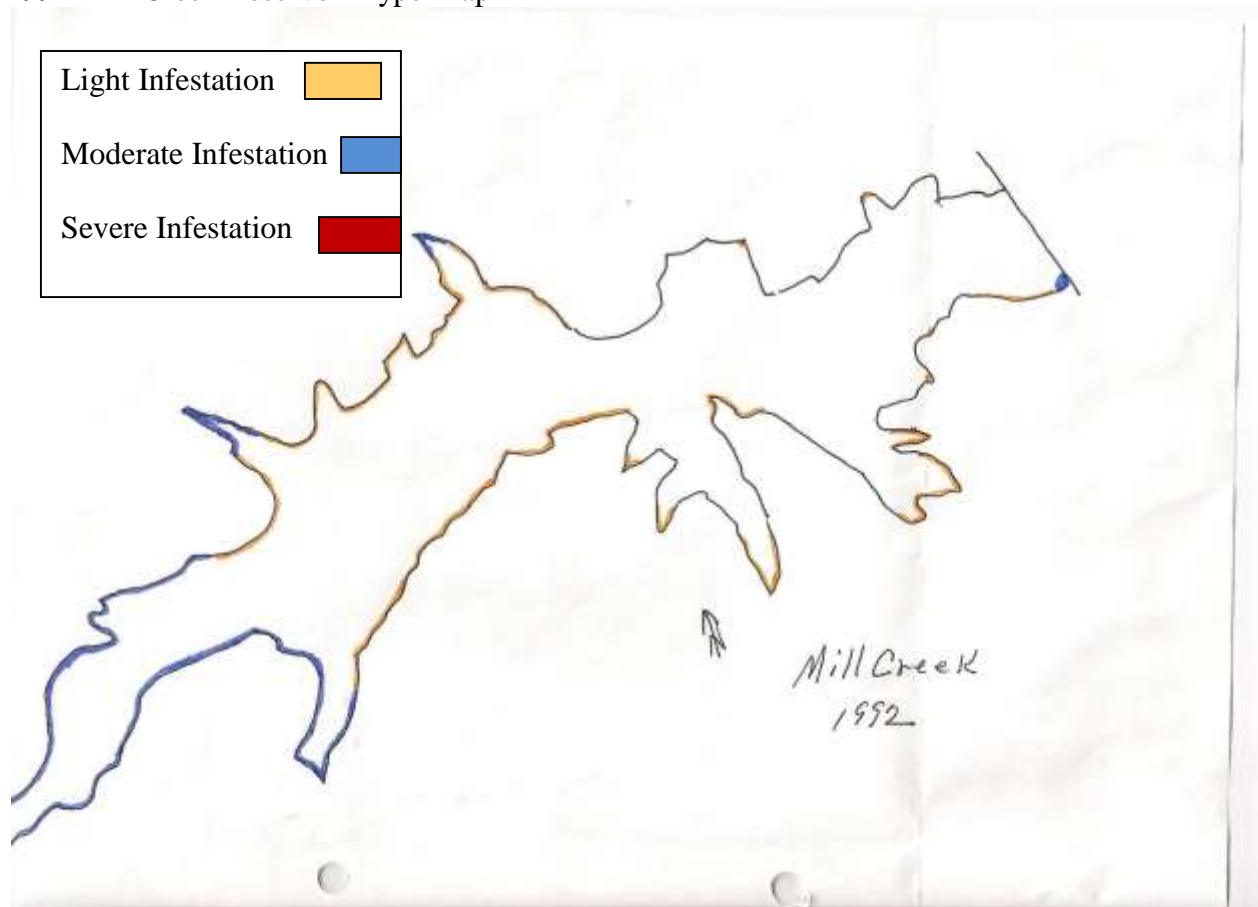
At the time of assessment Mill Creek Reservoir was at pool stage. The water was extremely clear with no turbidity. Presence of planktonic algae was very low. Secchi disc reading was 54”.

The submersed aquatic plants noted were bladderwort (*Utricularia* sp.), southern naiad (*Najas guadalupensis*), coontail (*Ceratophyllum demersum*), muskgrass (*Chara* sp.) and filamentous algae.

All infestation ranged from moderate to light. Most infestations were in the upper end with little or very few plants in the main lake.

Above text presumably written by Melvin Bagwell; transcribed, edited and corrected by James Seales, May 2014.

1992 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1993

Mill Creek Reservoir 1993

Mill Creek Reservoir was surveyed and assessed for aquatic plants in August 1993.

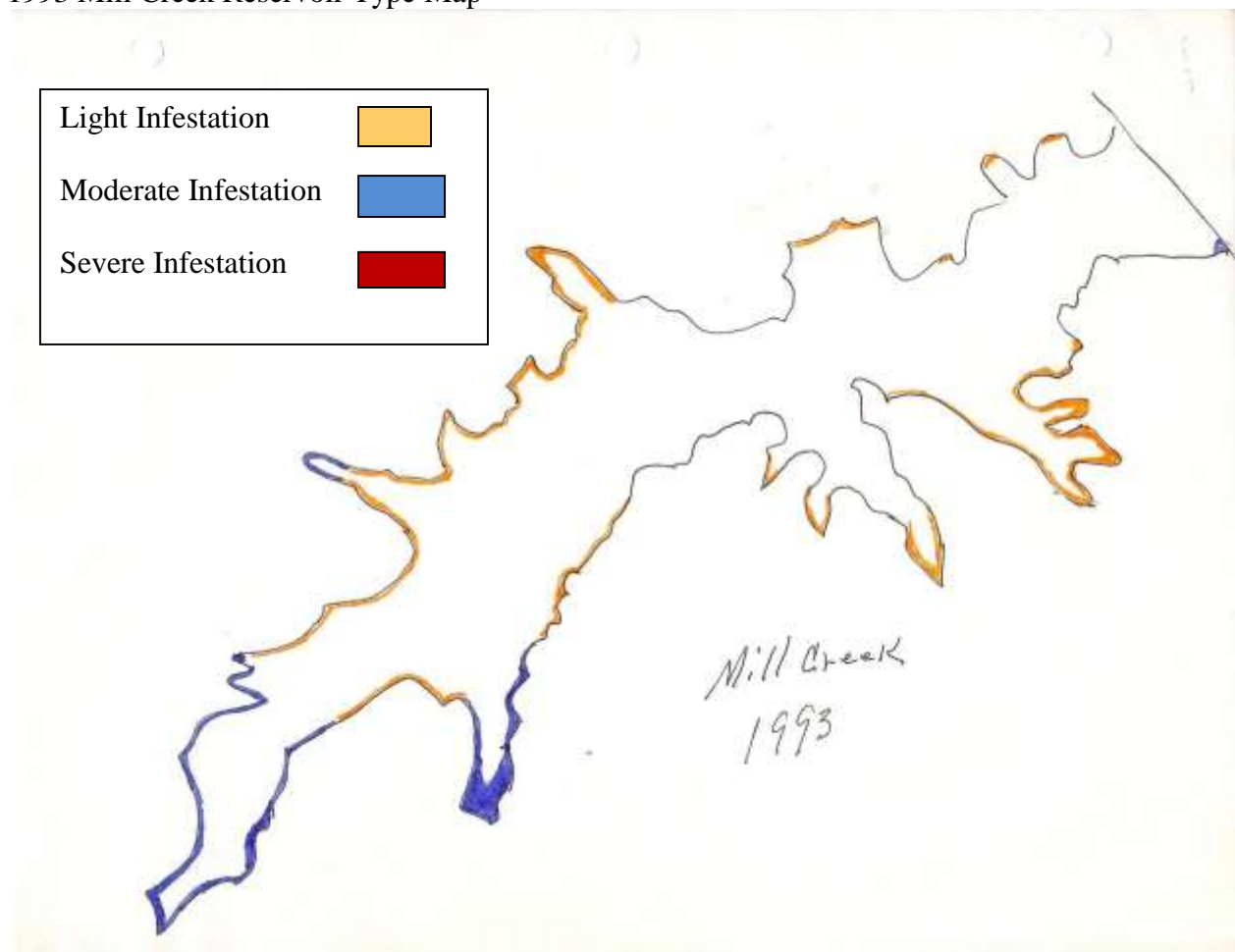
The color of the water was clear with hardly any turbidity. The secchi disc reading was 50 inches (50"). The pH was 7.2.

The primary aquatic plants noted was pondweed (*Potamogeton* sp.) and bladderwort (*Utricularia* sp.). Most infestations were isolated to the upper end and marginal areas. The infestations ranged from moderate in the upper end to light in the marginal areas. The plants were in water out to 6 feet deep.

Also noted was fanwort (*Cabomba caroliniana*) and milfoil (*Myriophyllum* sp.). There was an infestation of these two plants at the south end of the dam. These plants were in water out to four feet deep.

Above text presumably written by Melvin Bagwell; transcribed, edited and corrected by James Seales, May 2014.

1993 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1994

Mill Creek Reservoir 1994

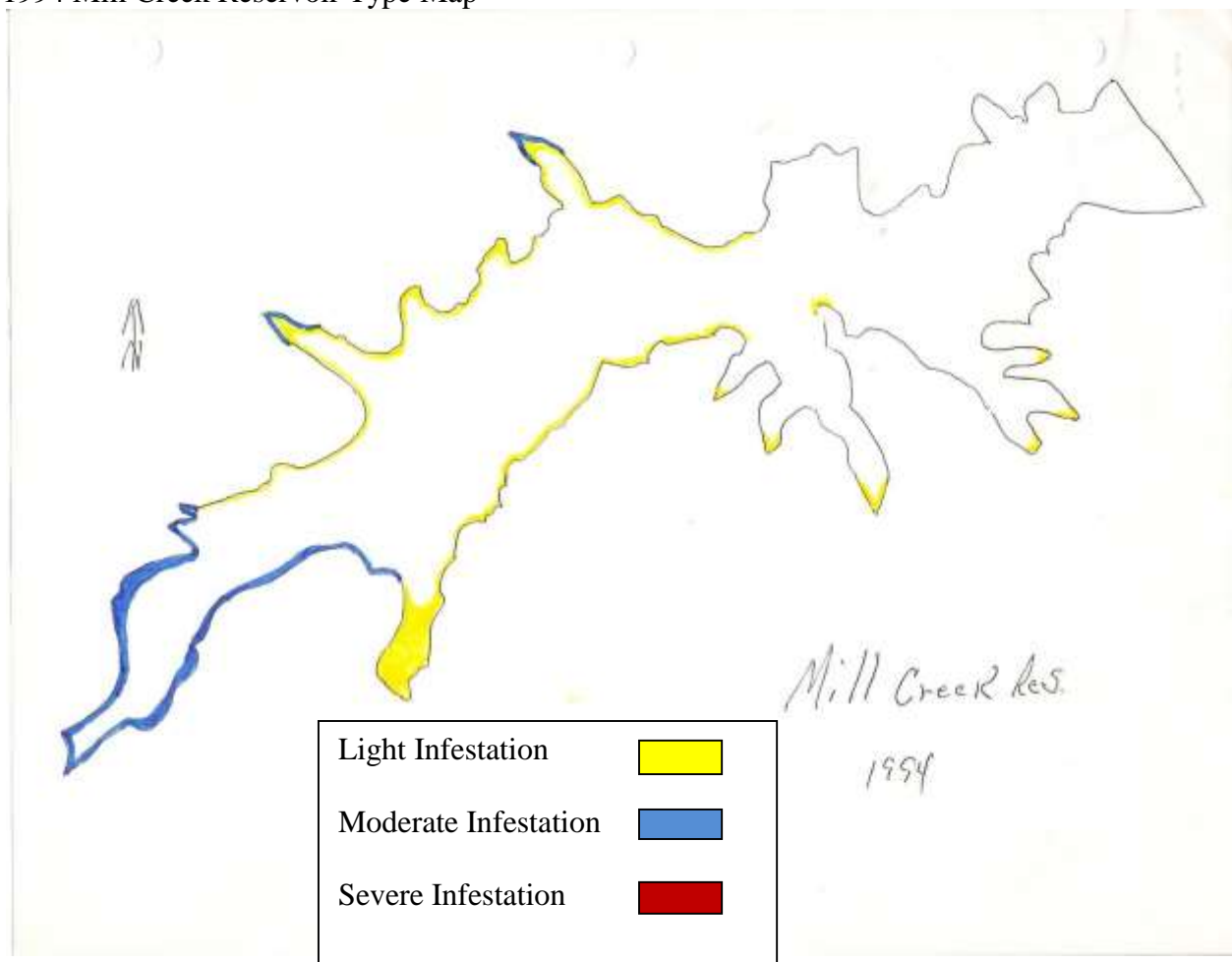
At the time of assessment Mill Creek Reservoir was at pool stage. The water color was very clear. The secchi disc reading was 44” in the middle of the lake.

The submersed aquatic plants noted were bladderwort (*Utricularia* sp.), fanwort (*Cabomba caroliniana*), pondweed (*Potamogeton* sp.), southern naiad (*Najas guadalupensis*), muskgrass (*Chara* sp.) and filamentous algae.

The submersed aquatic plants in Mill Creek Reservoir ranged from very light coverage in the lower and mid portion of the lake to light and moderate in the upper end. Submerged vegetation was found out to depths of seven feet.

Above text presumably written by Melvin Bagwell; transcribed, edited and corrected by James Seales, May 2014.

1994 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1995

Mill Creek Reservoir 1995

At the time of assessment Mill Creek Reservoir was at pool stage. The water color was very clear with no turbidity.

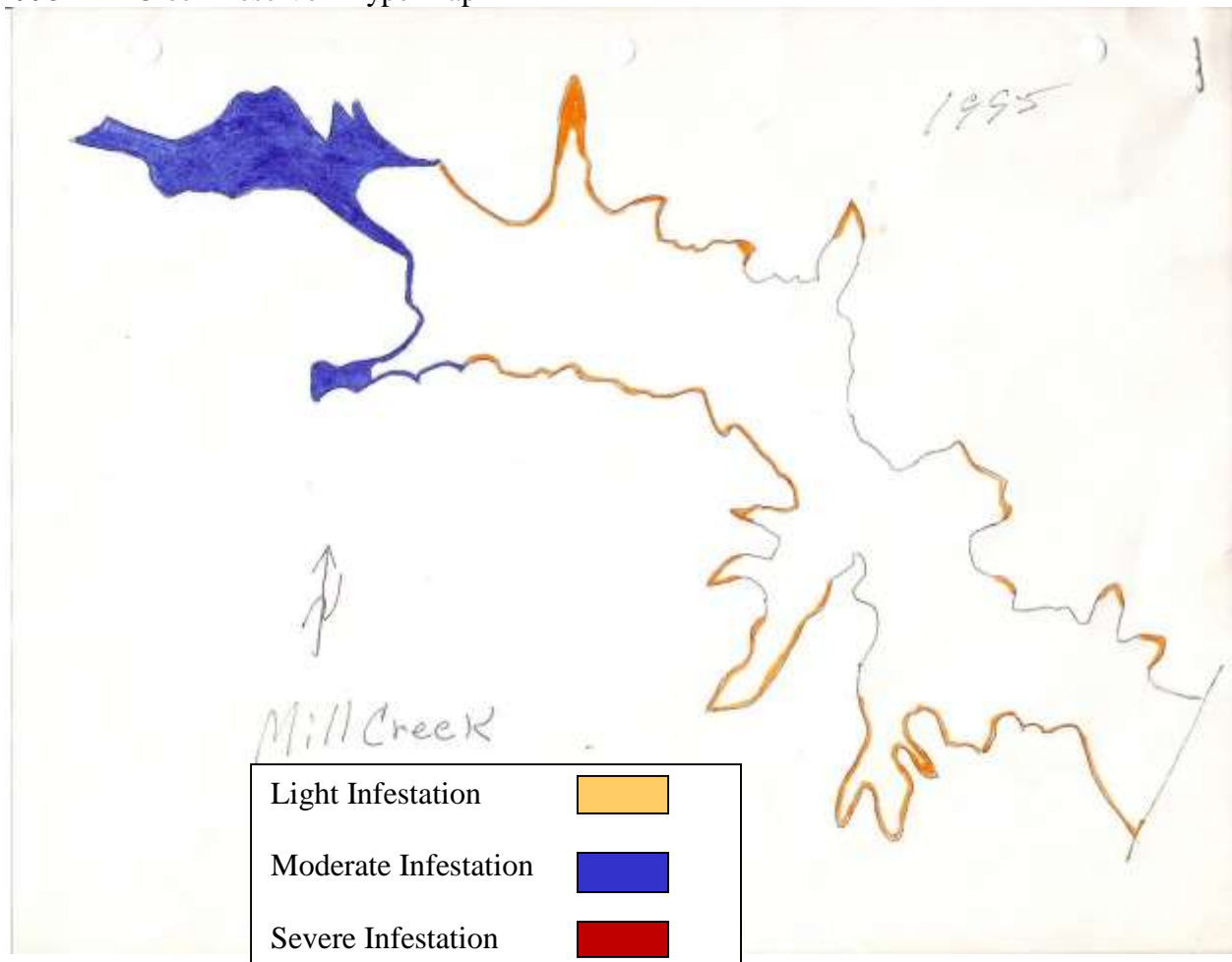
The submersed aquatic plants noted were naiad (*Najas* sp.) slender naiad, pondweed (*Potamogeton* sp.), muskgrass (*Chara* sp.), and bladderwort (*Utricularia* sp.).

Most infestations were light to moderate and in water out to five feet deep.

The emergent aquatic plants noted were smartweed (*Polygonum* sp.), arrowhead (*Sagittaria* sp.), water primrose (*Ludwigia octovalvis*) and lizard's tail (*Saururus cernuus*).

Above text presumably written by Melvin Bagwell; transcribed, edited and corrected by James Seales, May 2014.

1995 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1997

Mill Creek Reservoir 1997

At the time of assessment Millcreek Reservoir was at pool stage. The water color was very clear.

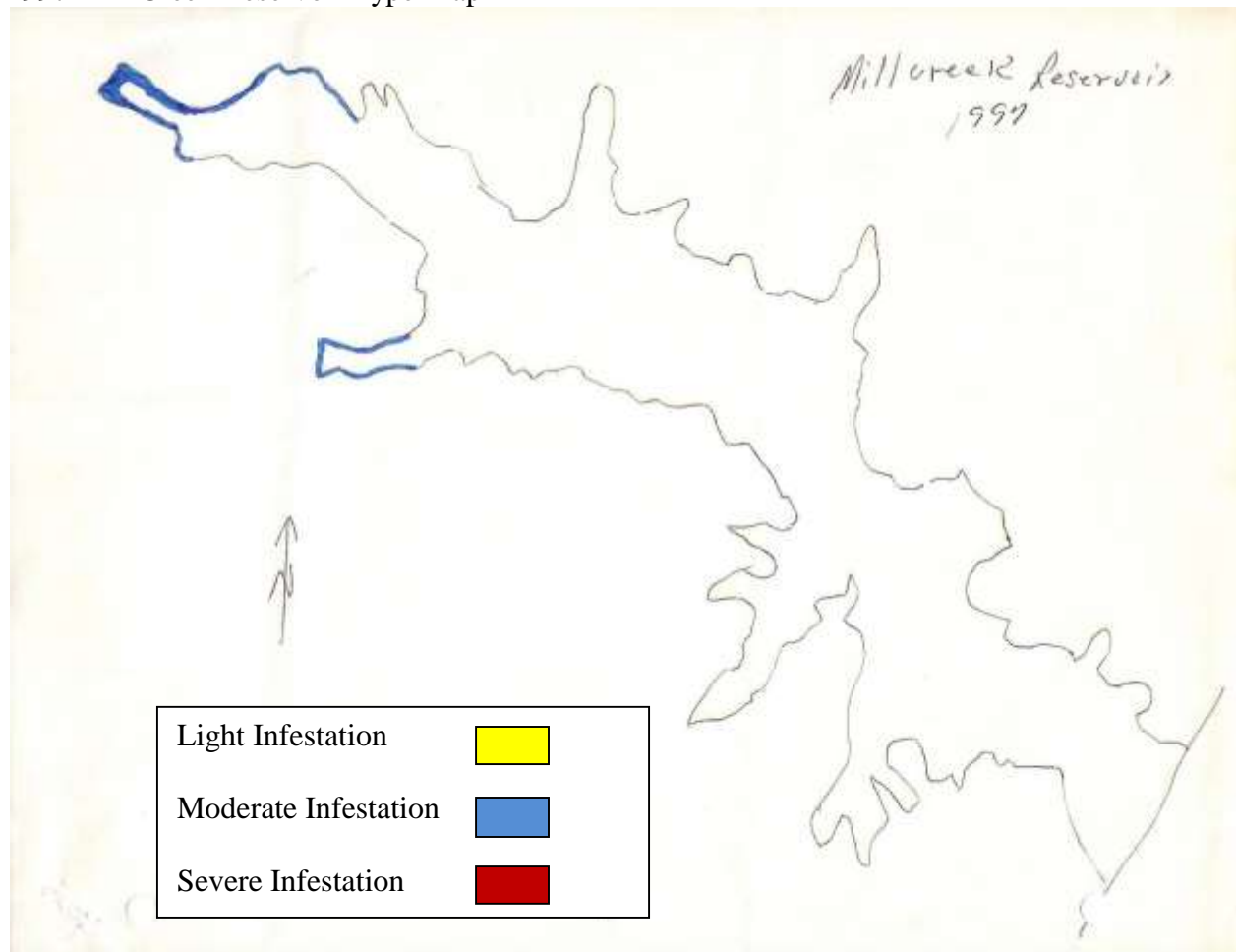
The submersed aquatic plants noted were spikerush (*Eleocharis* sp.), widgeon grass (*Ruppia maritima*), filamentous algae, bladderwort (*Utricularia* sp.) and southern naiad (*Najas guadalupensis*).

The only floating plant noted was duckweed (*Lemna* sp.). The main emergent plants were water shield (*Brasenia schreberi*), fragrant water lily (*Nymphaea odorata*), bulrush (*Scirpus* sp.), smartweed (*Polygonum* sp.), and miscellaneous grasses.

The distribution of aquatic plants in Millcreek Reservoir are light in most areas and moderate in the extreme upper end of the lake. The lake has a ten percent infestation.

Above text presumably written by Melvin Bagwell; transcribed, edited and corrected by James Seales, May 2014.

1997 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 1998

Mill Creek Reservoir 1998

At the time of the assessment Millcreek Reservoir was at pool stage. The color of the water was clear.

The aquatic plants surveyed were bladderwort (*Utricularia* sp.), fanwort (*Cabomba caroliniana*), southern naiad (*Najas guadalupensis*), muskgrass (*Chara* sp.), and widgeon grass (*Ruppia maritima*).

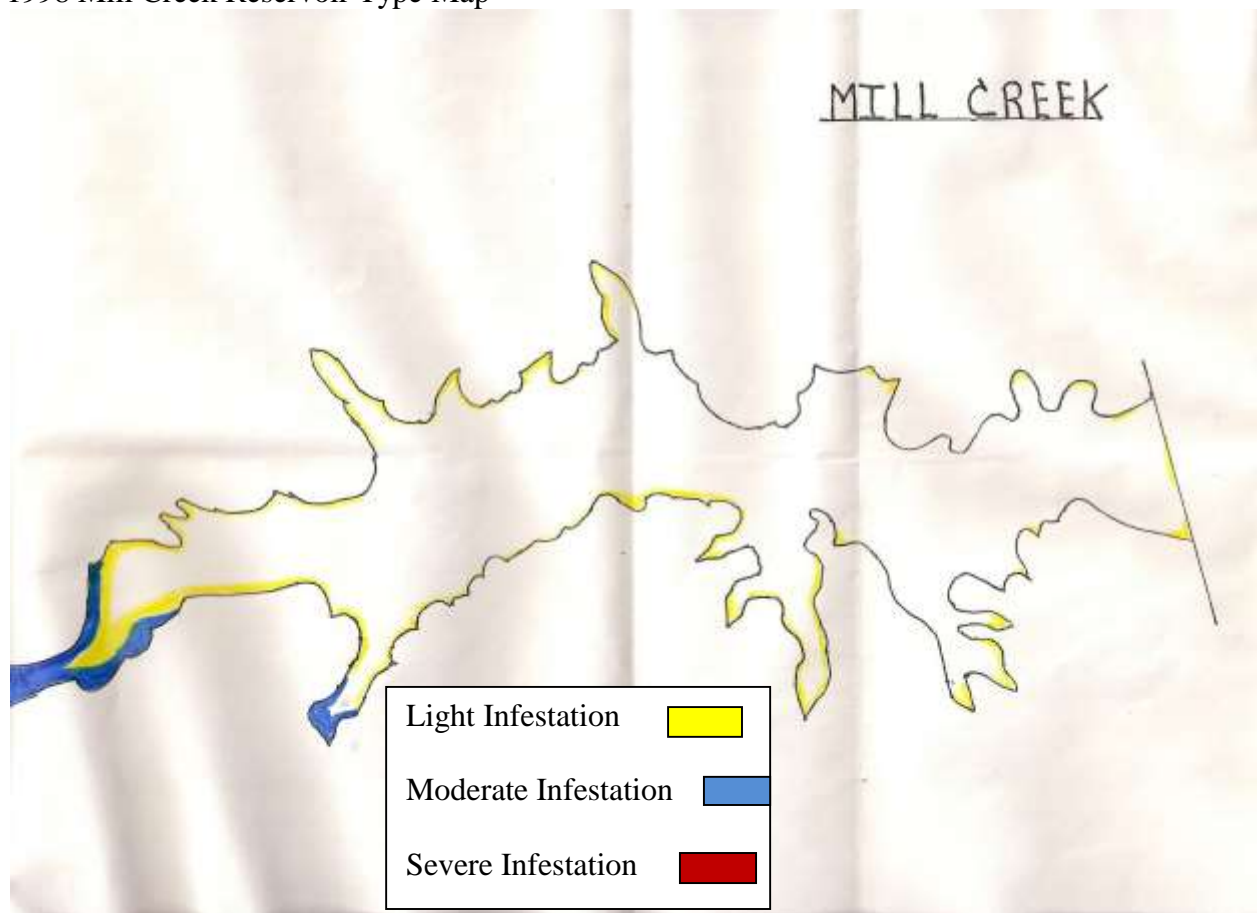
The emergent plants surveyed were watershield (*Brasenia schreberi*) water shield and fragrant water lily (*Nymphaea odorata*). Smartweed (*Polygonum* sp.) and bulrush (*Scirpus* sp.) were also noted.

The distribution of aquatic plants was light in all areas of the lower and mid portion of the lake. The upper end had an area of moderate plants. Total infestation was an estimated 10%.

Written by: Melvin Bagwell

Edited and corrected by: James Seales (May 2014)

1998 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Survey – 1999

Mill Creek Reservoir
1999

At the time of the assessment, Mill Creek Reservoir was under a drawdown situation. The water level was eight below pool stage and no typemap survey could be performed.

Written by Melvin Bagwell

Edited by James Seales (January 2014)

Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 2000

Mill Creek Reservoir
July 2000

At the time of the assessment Mill Creek Reservoir was at pool stage.
The water color was clear.

The submersed aquatic plants noted were bladderwort (*Utricularia* sp.), southern naiad (*Najas guadalupensis*), muskgrass (*Chara* sp.), and spikerush (*Eleocharis* sp.).

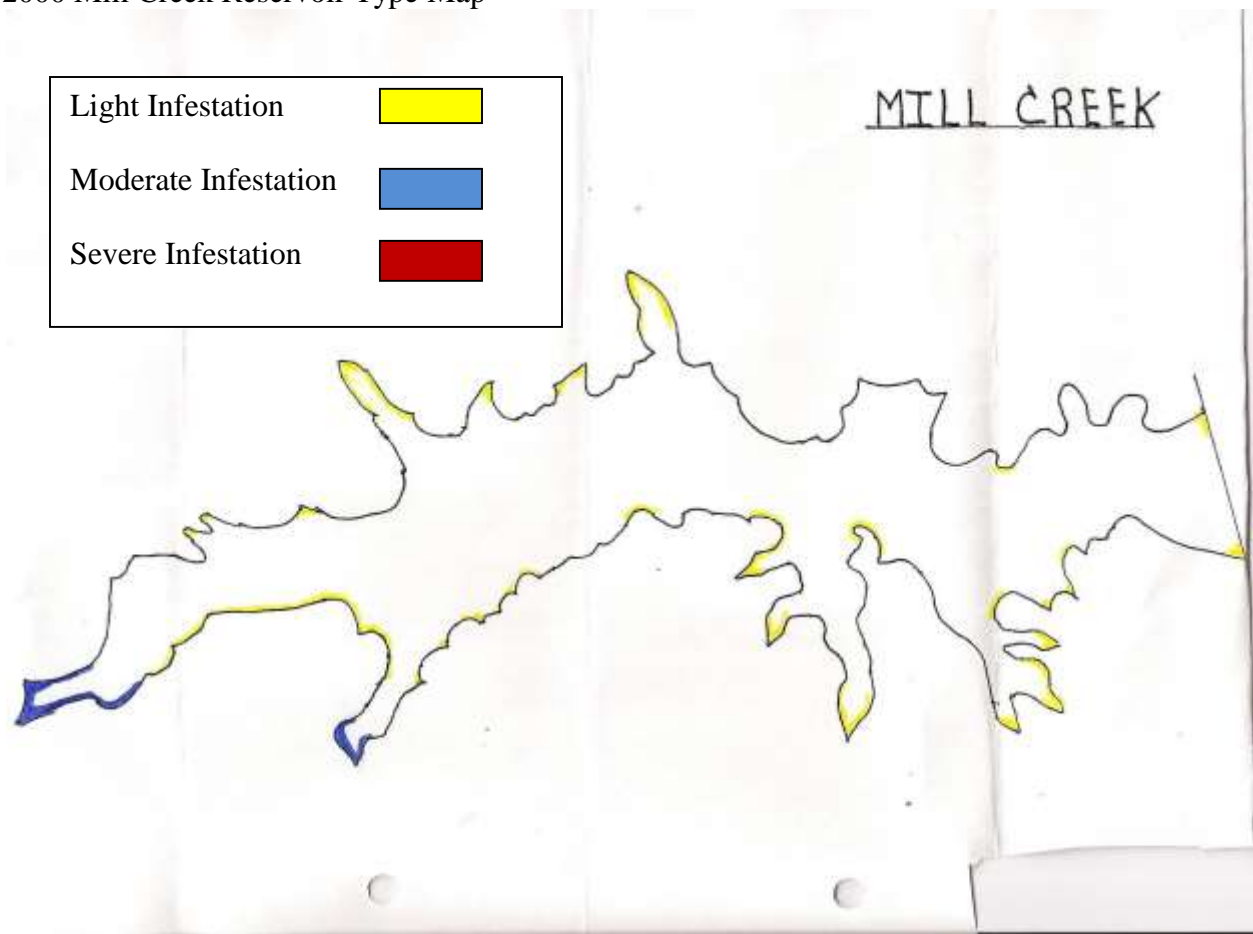
The emergent aquatic plants noted were water shield (*Brasenia schreberi*), and water pennywort (*Hydrocotyle umbellata*).

The estimated percentage of infestation was less than 5 percent.

Written by Melvin Bagwell

Edited and corrected by James Seales (May 2014)

2000 Mill Creek Reservoir Type Map



Mill Creek Reservoir – Aquatic Vegetation Type Map and Narrative – 2001

Mill Creek Reservoir 2001

Mill Creek Reservoir was surveyed for the presence of aquatic vegetation on July 10, 2001. At the time of the survey the lake was at pool stage. The water color was clear.

The submersed plants noted were: bladderwort (*Utricularia* sp.), southern naiad (*Najas guadalupensis*), muskgrass (*Chara* sp.), filamentous algae, fanwort (*Cabomba caroliniana*), coontail (*Ceratophyllum demersum*), and spikerush (*Eleocharis* sp.)

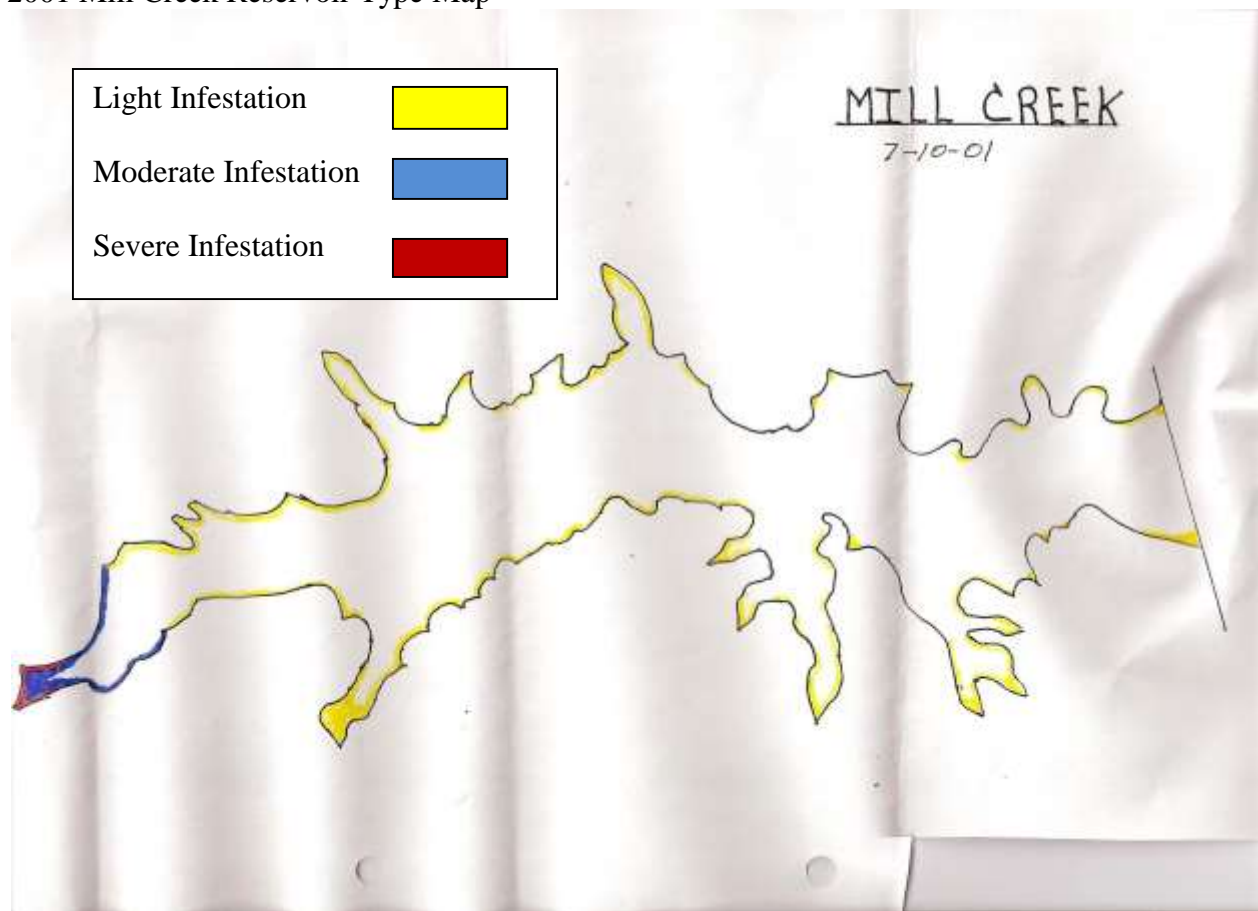
The emergent plants noted were: smartweed (*Polygonum* sp.), watershield (*Brasenia schreberi*), waterhyssop (*Bacopa* sp.), fragrant water lily (*Nymphaea odorata*), water primrose (*Ludwigia* sp.), and bulrush (*Scirpus* sp.).

The estimated percent coverage of submersed plants was 10%.

Written by Melvin Bagwell

Edited and corrected by James Seales (May 2014)

2001 Mill Creek Reservoir Type Map



Mill Creek Reservoir Bienville Parish, LA Vegetation Type Map 2017

An aquatic vegetation typemap survey was performed on Mill Creek Reservoir (560 acres) in Bienville Parish on September 7 & 12, 2017. The survey was conducted by Inland Fisheries Biologist James Seales. The lake was approximately one inch above pool stage at the time of the survey. The water color was moderately stained and an algae bloom was present throughout the lake.

Species Present

<u>Common Name</u>	<u>Scientific Name</u>
Alligator weed	<i>Alternanthera philoxeroides</i>
American lotus	<i>Nelumbo lutea</i>
Bladderwort	<i>Utricularia</i> spp.
Bulrush	<i>Scirpus</i> spp.
Cattail	(<i>Typha</i> spp.)
Creeping Water Primrose	<i>Ludwigia repens</i>
Fanwort	<i>Cabomba caroliniana</i>
Filamentous algae	
Fragrant Water Lilly	<i>Nymphaea odorata</i>
Giant salvinia	<i>Salvinia molesta</i>
Muskgrass	<i>Chara</i> spp.
Naiad	<i>Najas</i> spp.
Pondweed	<i>Potamogeton</i> spp.
Slender Spike Rush	<i>Eleocharis baldwinii</i>
Southern watergrass	<i>Luziola fluitans</i>
Torpedo Grass	<i>Panicum repens</i>
Variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>
Water pennywort	(<i>Hydrocotyle umbellata</i>)
Water shield	<i>Brasenia schreberi</i>
Widgeon grass	<i>Ruppia maritima</i>
Wild Taro	<i>Colocasia esculenta</i>

Severity

The majority of Mill Creek Reservoir is not adversely affected by aquatic vegetation. Less than 15% of the lake has vegetation coverage that could be described as moderate or severe. Only the extreme upper end of the lake and the backs of some coves have significant vegetation coverage. Submerged vegetation can be found in 25-30% of the reservoir to some extent, but is not impacting access.

Marginal aquatic vegetation was observed at very low densities widely scattered along the shoreline of the lake. Species included wild taro, torpedo grass, bulrush, and cattail.

Watershield was the predominant emergent plant found in Mill Creek Reservoir. It was found in the upper end of the lake, the backs of several coves and a couple of shallow flats along the shoreline. In most areas where watershield occurred the coverage was dense. Creeping water primrose, alligator-weed, fragrant water lily, pondweed, southern watergrass, and American lotus were found in a few locations on the lake. Most of the emergent vegetation in water less than 3 ft. deep, but occasionally emergent vegetation was found growing in 5 to 6 ft. of water.

Submersed vegetation was present out to depths of approximately 10 feet. In the deeper areas the submersed vegetation appeared to be sparse based on what was collected with a drag. The majority of the submersed vegetation was found in depths of 7 feet or less. In most areas the vegetation was not topped out, but was growing several feet off the lake bottom. Topped out submerged vegetation was only found in water 3 feet or less in depth. The primary species were bladderwort, variable-leaf milfoil, fanwort and widgeon grass.

If consolidated, approximately 5 acres of giant salvinia were found on the entire lake. Salvinia plants were randomly found at very low densities mixed in with other vegetation such as watershield. A few small mats have persisted in the upper reaches and extreme shallow areas at the head of the lake.

Discussion

Giant salvinia was discovered on Mill Creek Reservoir in 2013. Foliar herbicide applications have been ongoing as needed since the plant was discovered. Giant salvinia has not covered large areas of the lake thus far, but persists at low levels primarily on the upper end of Mill Creek.

Mill Creek Reservoir underwent a fall / winter drawdown beginning after Labor Day in 2014 and continuing through the end of January 2015. Vegetation coverage was greatly reduced following this drawdown. Surveys conducted during 2015 and 2016 indicate a gradual expansion of the aquatic vegetation in Mill Creek Reservoir. This trend is continuing from what was observed during the 2017 typemap survey. Current vegetation coverage is near ideal for fisheries production. Access for shoreline property owners is impeded in a few areas of the lake by dense growth of watershield.

